Charge Transport in DNA Duplex/Quadruplex Conjugates

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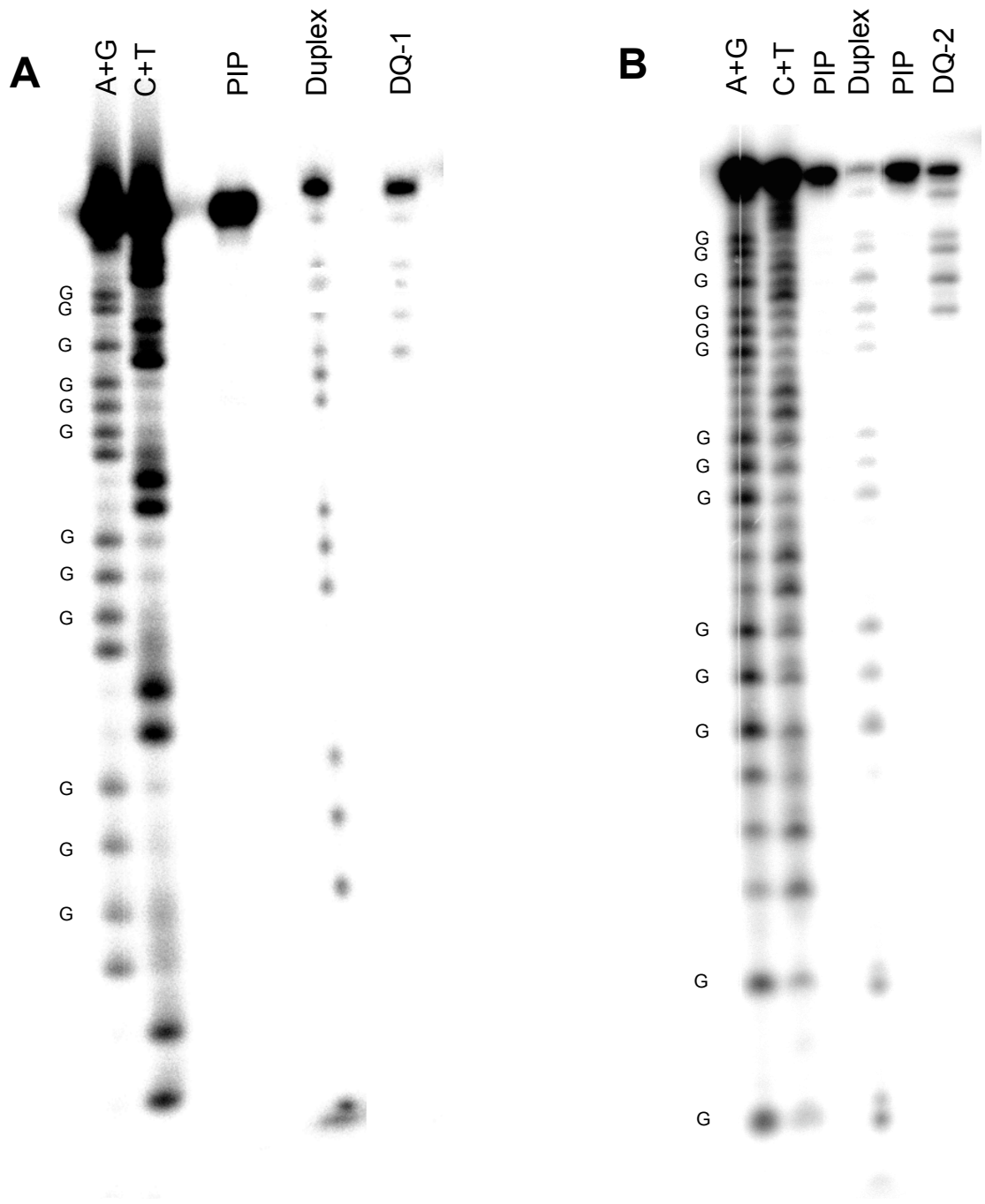
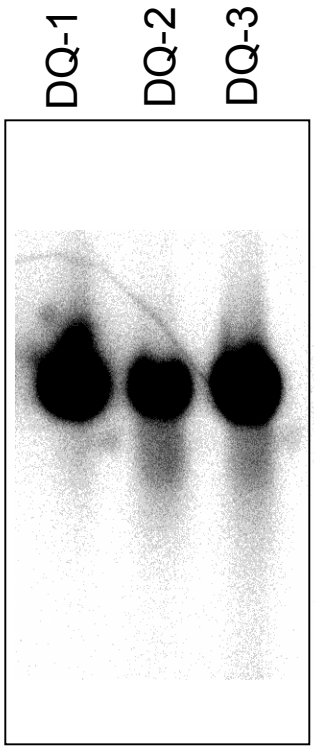
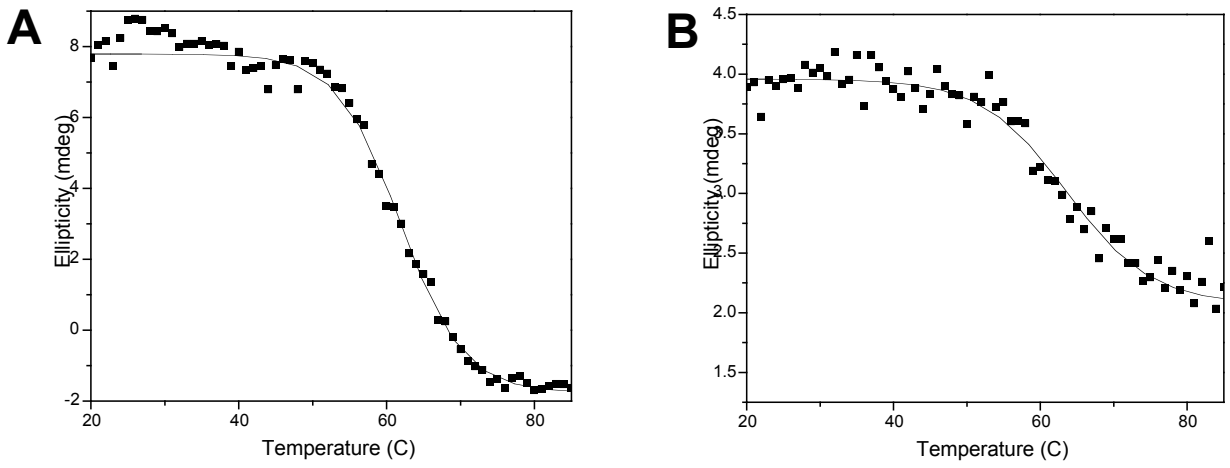
Supporting Information for World Wide Web Edition



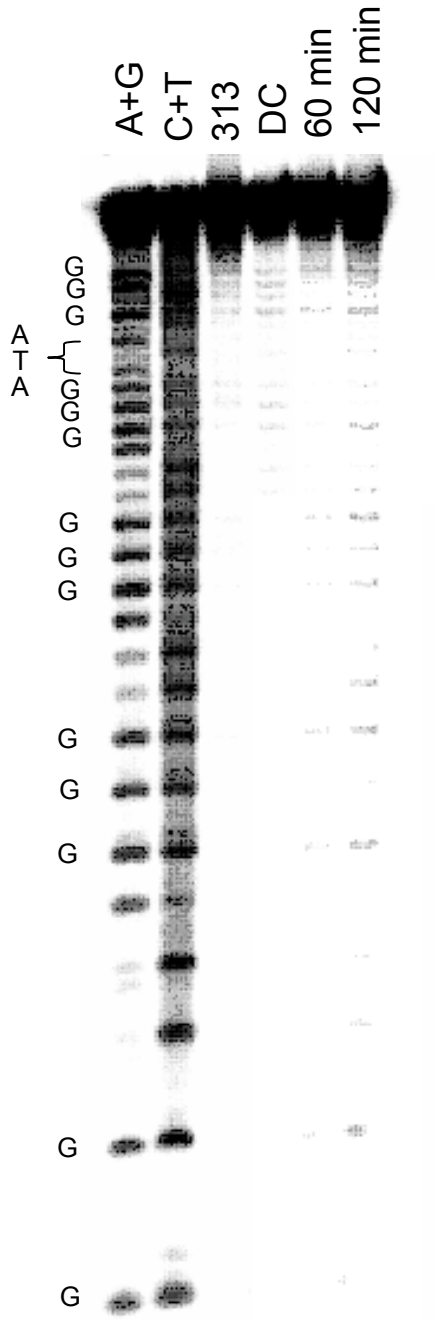
S1. DMS methylation protection analysis of A) **DQ-1** and B) **DQ-2** along with duplex controls. Maxam-Gilbert sequencing reactions A+G and C+T are shown in lanes 1 and 2, respectively. Damage of duplex/quadruplex conjugates treated with piperidine, but not DMS, is shown in lanes labeled *PIP*. Methylation of the 32 base pair duplex control is shown in lanes labeled *Duplex*. Damage of duplex/quadruplex conjugates following treatment with DMS and piperdine are shown in lanes *DQ-1* and *DQ-2*. The duplex and conjugate concentrations were 4 _M in 10 mM potassium phosphate, pH 7 with 100 mM KCl.



S2. Native gel electrophoresis of **DQ-1**, **DQ-2**, and **DQ-3**. Conjugates were annealed at a concentration of 4 □M in 10 mM potassium phosphate, pH 7 with 100 mM KCl. Samples were electrophoresed at 4 °C and 10 W for ~ 12 hours through a 12% nondenaturing gel containing 100 mM KCl in the gel matrix, running buffer (0.5X TBE), and loading dye.



S3. CD melting temperature profile of A) the quadruplex forming strand of **DQ-1** (4 _M) and B) duplex alone (4 _M) monitored at 285 nm, in 10 mM potassium phosphate, pH 7 with 100 mM KCl.



S4. PAGE of duplex/quadruplex conjugate with an ATA linker between duplex and quadruplex regions. Maxam-Gilbert sequencing reactions A+G and C+T are shown in lanes 1 and 2, respectively. Lane 3 shows the photocleavage of the rhodium intercalator after irradiation at 313 nm for 30 min. Lanes 4-6 display the oxidative damage after irradiation at 365 nm for 0, 60, and 120 min, respectively. Conjugate concentration was 4 □M in 10 mM potassium phosphate, pH 7 with 100 mM KCl.